

A head movement analysis of second position clitics: the case of Russian polar particle *li*

Abstract

Russian polar particle *li* is usually analyzed as a second position clitic, constrained to appear at the linearly second position in the clause (King and Franks 2000, Bošković 2001). This paper suggests that this requirement is a consequence of the Head Movement Constraint: *li* is generated in Σ – a polarity projection – merged directly above the associated polar constituent (X). This constituent must head move and left-adjoin to *li*. The complex head (X+*li*) acts as a constituent largely equivalent to a *wh*-word: at later stages of the derivation, it is attracted to the left periphery of the clause. *li* can be seen as an analogue of a *wh*-morpheme, which merges with different morphemes to form a *wh*-word. Treating X+*li* as a constituent allows to reduce the second position requirement of *li* to the left edge requirement on the X+*li*, a requirement often postulated for *wh*-words. I provide further evidence for the Σ hypothesis by showing the complementarity of *li* and negation.

1 Introduction

Much of the research on the Russian polar particle *li* has treated it as a second position, or a Wackernagelian, clitic. Thus, as (1) shows must linearly follow the first phonological word in the clause. Importantly, as (1c) shows, *li* is also sensitive to the semantic structure of the clause: *li*-clauses cannot contain branching focussed material.

- (1) a. Kvartiru **li** Anna kupila?
apartment LI Anna bought
'Did Anna buy an **apartment**?'
b.* Doroguju kvartiru **li** Anna kupila?
expensive apartment LI Anna bought
int. 'Did Anna buy an **expensive** apartment?'

- c. Doroguju **li** kvartiru Anna kupila?
 expensive LI apartment Anna bought
 ‘Did Anna buy an **expensive** apartment?’ – OK
 ‘Did Anna buy an **expensive apartment**?’ – not possible

A similar requirement is reported to hold for various other clitics, including the cognate South Slavic polar clitic *li* (See Bošković (2001) for an overview).

One of the central questions in investigations of *li* is whether the second position requirement can be accounted for in purely syntactic terms or whether additional post-syntactic operations must be postulated. One of such proposed post-syntactic operations is Prosodic Inversion (King and Franks 2000). King and Franks treat *li* as a complementizer which triggers phrasal movement to its specifier, followed by a postsyntactic movement of the clitic to the position after the first phonological word of the clause. This results in certain constituents, such as the DP ‘expensive books’ in (1), being seemingly disrupted by *li*. More generally, in their analysis, if a moved constituent consists of the phonological words X, Y and Z, the clitic will tuck in inside of this constituent so that material preceding this clitic constitute exactly one phonological word.

(2) **Prosodic Inversion:** $[X\ Y\ Z]_{XP}\ li \rightarrow [X\ li\ Y\ Z]_{XP}$

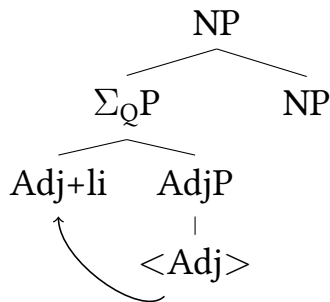
The Prosodic Inversion analysis, however, cannot account for the facts in (1c). If Prosodic Inversion is a postsyntactic process, its application shouldn’t matter for the interpretation.

In this paper, I suggest that the ban on phrasal constituents in the pre-*li* position is a consequence of the Head Movement Constraint: the associated

constituent must head move and adjoin to *li*, which is supposed to be the head of the polarity phrase. Branching constituents, like the one in (1b), are unable to do so yielding ungrammaticality. Only those constituents that move to *li* can get polar interpretation, explaining the pattern in (1c). The idea that *li* triggers head movement is not novel and was proposed in different implementations by Bošković (2001), Rudin et al. (1999). However, what remains largely unclear in those accounts is the exact nature of the association of *li* and the head-moved phrase.

I suggest that the main trigger for the head movement is polarity: *li* merges right above the associated polar constituent in the ΣP (the same projection where negation can be generated) which head-moves to *li* to check the polarity feature and forms a complex head with it early in the derivation.

(3) [**expensive + LI**] apartment



At later stages of the derivation the complex head ($\Sigma_Q P$) acts as a constituent largely equivalent to a *wh*-word: it is attracted to the left periphery of the clause by the interrogative C either by itself or as a part of a larger (pied-piped) constituent. I propose that *li* can be seen as an analogue of a *wh*-morpheme, which merges with different morphemes to form a *wh*-word.

- (4) a. **wh**-ere, **wh**-at, **wh**-en etc.
 b. bol'šoj-**li**, dorogoj-**li** etc.

Treating $X+li$ as a constituent allows to reduce this clitic's second position requirement to the Left Edge condition on the $X+li$, a requirement often postulated for *wh*-words (Beck 2008, 2009). According to this generalization, *wh*-words are most commonly found at the left edge of Pied Piped Phrases. Indeed, $X+li$ phrases and *wh*-words are largely similar in their distribution. Similarly to *wh*-words, $X+li$ phrases tend to appear at the left periphery of clauses and of pied-piped phrases (most commonly, DPs). Putting both $X+li$ and *wh*-words far from the left edge often causes ungrammaticality, as the example in (5) shows.

(5) **Left edge violations for $X+li$ and *wh*-words:**

- a.*Ljubimuju knigu sestry **kogo** ty xočeš kupit'
 favorite.ACC book.ACC sister.GEN who.GEN you want to.buy
 'Whose sister's favorite book do you want to buy?'
- b.*Ljubimuju knigu sestry **Niny li** ty xočeš kupit'
 favorite.ACC book.ACC sister.GEN Nina.GEN LI you want to.buy
 'Do you want to buy **Nina**'s sister's favorite book?'

Given these assumptions, the second position requirement of *li* is now derived straightforwardly: Obligatory *wh*-movement to SpecCP ensures that the phrase in which $X+li$ is contained is at the left periphery of the clause, the DP-Left Edge Constraint ensures that $X+li$ is at the left edge of the DP, the obligatory head movement of *li*'s complement ensures that *li* is preceded by nothing more than a syntactic head, which in most cases

is one phonological word. Importantly, there is no need, as far as Russian data is concerned, to resort to any other operations (e.g. phonological) to derive the second position requirement of *li*: all relevant properties follow from properties of obligatory overt *wh*-movement and constraints on head movement.

The proposed analysis departs from an influential tradition treating *li* as a complementizer, similar to *that* or *if* (Brown (1999), Brown and Franks (1995), Kazenin (2006); see however Bošković (2001), Zanon (2014) who also suggest that *li* merges low). In the present analysis, *li* is merged directly above the constituent above which it scopes, with subsequent movement to the left periphery.

My main argument for the low attachment is that the syntactic behavior of *li* is largely similar to that of the negative morpheme *ne*. Similarly to *ne*, *li* is an operator with a very local scope which is only able to merge with non-branching phrases in the head position (in the absence of contrastive focus).

The rest of the paper is organized as follows. Section 2, I provide main data on Russian *li*-question. In section 3, I present the proposal and provide further evidence for the Σ hypothesis. Section 4 discusses the Left Edge Requirement for X+*li* within DPs. Section 5 concludes.

2 Data

2.1 *li* and its pivot

The Russian morpheme *li* is a particle which is used in yes-no questions (King and Franks (2000), Bošković (2001)), such as the one below:

(6) **Knigu** li Nina pročitala?

book.ACC LI Nina read

‘Did Nina buy a *book*?’

The starting point of the analysis proposed here is the observation that *li* is closely associated with the phrase which it linearly follows, in the example above – with the word *knigu*. This association is manifested in several ways.

Prosodically, this constituent (to which I will refer as *pivot of li*), is marked with prosodic emphasis characteristic for focus.

Syntactically, this is the constituent which undergoes movement to the left periphery of the clause, to the position linearly preceding *li*. Leaving such constituent *in situ* is not possible (Chernova (2015), a.o.):

(7) a.*Nina pročitala **knigu** li?

Nina read book.ACC LI

int. ‘Did Nina read a book?’

b.*Li Nina pročitala **knigu**?

LI Nina read book.ACC

int. ‘Did Nina read a book?’

Finally, on the semantic level, the pivot of *li* is the constituent with respect to which the alternatives of the question are computed. To illustrate this last point, let’s consider the following example.

(8) **Doroguju** li kvartiru Nina kupila?

expensive.ACC LI apartment.ACC Nina bought

‘Did Nina buy an *expensive* apartment?’

This sentence presupposes that Nina bought an apartment, and the inquiry is only about its price (whether the apartment is expensive or not). More formally, the semantic denotation of this sentence contains a set of the following two alternatives: {{Nina bought an **expensive** apartment}; {Nina bought a $\neg$ (**expensive**) apartment}}. I will refer to such readings as *constituent polarity* interpretation.

Li-questions can also have a *total polarity* (Bianchi and Cruschina 2015) interpretation, that is where the polarity is computed with respect to the whole proposition, and the alternative set is {p; $\neg$ p}. In this case, the pivot of *li* contains the finite lexical verb or the auxiliary. Fronting of the lexical verb across the auxiliary is not possible:

- (9) a. Čitaet li Nina knigu?
 reads LI Nina book.ACC
 ‘Is Nina reading the book?’
- b. Budet li Nina citat’ knigu?
 will.3SG LI Nina read.INF book.acc
 ‘Will Nina read the book?’
- c. *Čitat’ li Nina budet knigu?
 read.INF LI Nina will.3SG book.ACC
 int. ‘Will Nina read the book?’

If the sentence contains a null copula embedding a nominal predicate, the nominal predicate can be fronted if it is not branching. If the nominal predicate is branching, its individual non-branching subconstituents can be fronted, yielding phrasal polarity interpretation.

(10) Vrač li Dima?
 doctor LI dima
 ‘Is Dima a doctor?’

(11) a. *Detskij vrač li Dima?
 childrens doctor LI dima
 int. ‘Is Dima a pediatrician?’
 b. Detskij li vrač Dima?
 children’s LI doctor dima
 OK: ‘Is Dima a pediatrician [or an adult doctor?]
 not possible: ‘Is Dima a pediatrician [or a teacher]?’

The violation in (11a) is a consequence of a more general constraint: the pivot of *li* cannot contain a syntactically complex phrase (this fact is observed in King (1994), Bošković (2001), Rudin et al. (1998), although in different formulation). The following sentences show that, first, *li* cannot linearly follow a branching phrase regardless of the interpretation and, second, that *li* cannot scope over any material that it linearly precedes:

(12) a. *Doroguju kvartiru li Nina kupila?
 expensive.ACC apartment.ACC LI Nina bought
 int. ‘Did Nina buy an **expensive** apartment?’ or
 ‘Did Nina buy an **expensive apartment**?’

b. Doroguju li kvartiru Nina kupila?

expensive.ACC LI apartment.ACC Nina bought

Reading A: ‘Did Nina buy an [**expensive**] apartment?’ – OK

Reading B: ‘Did Nina buy an [**expensive apartment**]?’ – not possible

Reading C: ‘Did Nina buy an expensive [**apartment**]?’ – not possible

I suggest that the close association of *li* and its pivot can be explained if *li* is analyzed as a morpheme merged low, directly above the pivot. One piece of evidence for the syntactic, rather than phonological (King and Franks (2000)) nature of the constraint on the size of *li*’s pivot comes from the observation that the pivot can contain more than one phonological word. The following example shows that the pivot of *li* can contain several phonological words, as long as they syntactically constitute a minimal projection.

(13) **Annu Kareninu li** [nam] po kostočkam razobrat’?

Anna.ACC Karenina.ACC LI we.dat to bones analyze

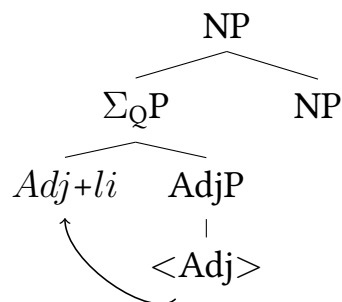
‘Should we scrutinize [the novel] ‘Anna Karenina’ from every angle?’

The assumption here is that the phrase *Anna Karenina*, despite being phonologically complex (indeed, the two words each bear an independent stress), occupies the position of the nominal head and is syntactically simplex. In contrast, the phrase *dorogie knigi* ‘expensive books’ in the ungrammatical sentence (12a), is supposed to have a different structure: here, while the noun sits in the nominal head, the adjective occupies a different position, presumably, the nominal specifier, at the same sitting in the adjectival head.

- (14) a. [[[Anna Karenina]_N]_{NP}]_{DP}
 b. [[[dorie]_{adj}]_{adjP} [knigi]_{NP}]_{NP}

Importantly, speakers report that the placement of *li* after the second phonological word becomes degraded if the speaker refers to a person rather than the novel. This is consistent with Matushansky's (2009) claim that certain complex names referring to individuals have a syntactically complex structure. (One difference between the two uses is that the person (or the character) 'Anna Karenina' can also be referred to as *Anna* or *Karenina*, while the novel cannot be). Crucially, *li* is only able to merge only with those phrases which are minimal, i.e. occupying head positions. In those cases where the pivot of *li* contains an adjective, *li* is supposed to merge right above the adjectival phrase:

(15)



In addition to *li*-questions, another strategy of forming polar questions exists in Russian. Such sentences are marked with interrogative prosody, while the declarative syntax is preserved (Chernova (2015)).

- (16) a. Čitaet li Nina knigu
 reads LI Nina book.ACC
 'Is Nina reading the book?'

- b. Nina čitaet knigu?
 Nina reads book.acc
 ‘Is Nina reading the book?’

Such sentences can contain individual focussed constituents (17b), which, unlike cases like (17a), are not limited to non-branching phrases.

- (17) a. *Doroguju kvartiru li Nina kupila?
 expensive apartment LI Nina bought
 int. ‘Did Nina buy an **expensive apartment**?’
 b. Nina kupila doroguju kvartiru?
 Nina bought expensive apartment
 ‘Did Nina buy an **expensive apartment**?’

However, such structures differ semantically from *li*-sentences with fronted constituents in that their alternative set is not limited to 2 elements. In order to see this difference, let’s consider the following minimal pair.

- (18) a. Dima sobiraetsja poexat’ v **Berlin**?
 Dima plans go.INF in Berlin
 ‘Is Dima going to visit Berlin?’
 b. V **Berlin** li Dima sobiraetsja poexat’?
 In Berlin LI Dima plans go.INF
 ‘Is Dima going to visit Berlin?’

The two sentences have a similar information structure, where the fact that Dima is planning to go somewhere is given and the place where he is planning to go is focused.

However, the felicity conditions of these two sentences are slightly different. Both sentences can be uttered felicitously if the context provides two alternatives (in this case, Berlin and Copenhagen):

(19) **Context.** Dima is planning to go either to Berlin or to Copenhagen.

a. Dima sobiraetsja poexat' v **Berlin**?

Dima plans go.INF in Berlin

b. V **Berlin** li Dima sobiraetsja poexat'?

In Berlin LI Dima plans go.INF

'Is Dima going to visit Berlin?'

A1. Yes, to Berlin.

A2. No, to Copenhagen.

If the context provides more than two alternatives, the use of a plain polar is acceptable while the use of a *li*-question is not:

(20) **Context.** Dima is planning to visit a European city.

a. Dima sobiraetsja poexat' v **Berlin**?

Dima plans go.INF in Berlin

b. ~~V~~ **Berlin** li Dima sobiraetsja poexat'?

In Berlin LI Dima plans go.INF

'Is Dima going to visit Berlin?'

The data suggests that *li*-questions demonstrate the behavior characteristic of polar questions which contain no focus. Indeed, polar question usually operate on a binary alternative set. In an influential proposal, Han and Romero (2004) propose that polar questions denote an alternative set consisting of exactly two alternatives: the proposition *p* and its negation

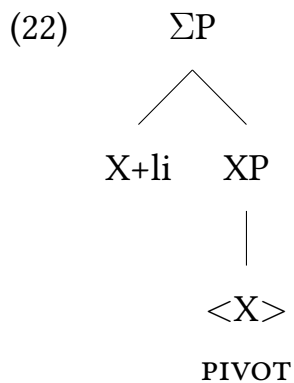
¬p. In the case of sentences like (20b), the polarity is computed with respect to a smaller constituent (Noun Phrase).

This data indicates that non-branching requirement arises only in those cases where polarity is involved: polar sentences with ordinary focus can be branching.

(21) **Polarity-nonbranching generalization**

- a. In phrasal polarity constructions, the polar phrase must be non-branching
- b. (Non-polar) focussed phrases can be non-branching

I suggest that the close association of *li* and its pivot can be explained if we assume that *li* merges directly above its pivot. By assumption, *li* bears a strong (polarity) feature which can only be checked if *li*'s pivot head-moves to *li*. If the polar predicate (XP) is branching, head movement cannot apply causing ungrammaticality.



This suggestion can now account for the pattern in (1), repeated here as (23):

- (23) a. Kvartiru **li** Anna kupila
 apartment LI Anna bought
 ‘Did Anna buy an **apartment**?’
- b.* Doroguju kvartiru **li** Anna kupila
 expensive apartment LI Anna bought
 int. ‘Did Anna buy an **expensive** apartment?’
- c. Doroguju **li** kvartiru Anna kupila
 expensive LI books Anna bought
 ‘Did Anna buy an **expensive** apartment?’ – OK
 ‘Did Anna buy an **expensive apartment**?’ – not possible

In (23a), *li* merges directly above the non-branching Noun Phrase *kvar-tiru* ‘apartment’ triggering head movement of the nominal head; the noun phrase gets polar interpretation. In (23b), the ungrammaticality is caused by the inability of the branching phrase *doroguju kvartiru* ‘expensive apartment’ to head-move to *li*. Without this movement, *li*’s polar feature remains unchecked. In (23c), the only possible derivation is the one where *li* merges directly above the adjective, c-commanding *doroguju*, but not *kvar-tiru* ‘apartment’. In this derivation, only the adjective gets polar interpretation.

Unlike most analyses of the 1W requirement of *li*, this account provides a straightforward explanation of the association of *li*’s scope and the size of the polar constituent. Thus, in Prosodic Inversion analyses, placement of *li* into the second position is supposed to proceed postsyntactically and to be insensitive to the semantic structure of the clause. Under this analysis, the pattern in (23c) remains unexplained: if Prosodic Inversion proceeds post-

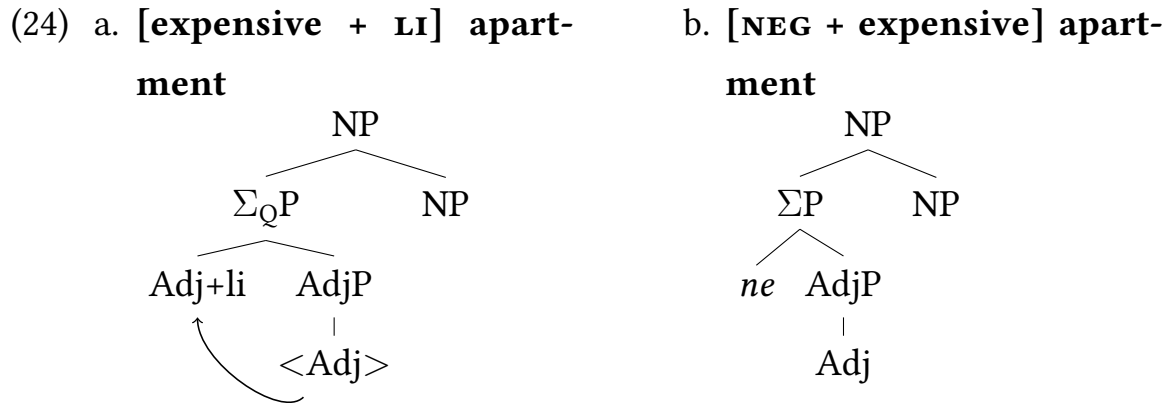
syntactically, it shouldn't be sensitive to the size of the focussed constituent (see more discussion of Prosodic Inversion analyses in Bošković (2001)). Bošković (2001) suggests two potential analyses to account for the ban on syntactically complex material in *li*-clauses. One analysis suggests that a part of the fronted phrase is head-moved higher, to a projection responsible for focus. By assumption, phrasal movement to FocP is unavailable. Another analysis suggests that *li* is generated low (similarly to the analysis proposed in this paper), with *li* being marker of *focus inflection*. Under such analysis, *li* is merged immediately above the constituents bearing focus, explaining the unavailability of the second reading in (c). Both analyses fail to answer the main question this data poses, namely, why should focus be checked by head-movement in *li*-clauses, but not in other types of clauses with focus, eg. 20(a)? In my account, the property to scope over minimal constituents is something that phrasal negation and phrasal polarity share. Thus, this requirement is idiosyncratic to Σ and doesn't manifest in constructions with non-polar focus.

3 *Li* and negation

In this section, I provide additional evidence for the hypothesis that *li* and *ne* are instances of the same category (Laka (1992)) – Σ – which is merged directly above the constituent with respect to which polarity (or negation) are computed. *li* can be seen as an interrogative version of Σ : it bears a *wh*-feature and is subject to *wh*-movement to SpecCP.

Similarly to negation, *li* is merged low, immediately above the constituent over which it takes scope. Unlike negation, however, which surfaces to the

left of the associated constituent, *li* linearly follows it. I suggest that this is due to the fact that *li* triggers head movement of its complement, which is followed by the left adjunction of the moved head to *li*.



ΣP undergoes *wh*-movement to SpecCP. Similarly to *wh*-words, *X+li*'s semantic denotation includes a focus value. These structures can account for the binarity requirement, if we assume that semantically, *li* is an operator which checks the binarity of the alternative set of its complement. This means that only the material which is inside the ΣP can get binarity interpretation.

In order to argue for the parallelism between negation and polarity, I will show that the distribution of *li* is similar to that of the negative morpheme *ne*. This particle is used to express both sentential and constituent negation, which, I want to argue, are equivalents of *li*-sentences with sentential and constituent polarity, respectively. The relevant minimal pairs are provided below.

(25) **Sentential and constituent negation**

- a. Anna kupila **ne**-dorojugu knigu
 Anna bought NEG-expensive.ACC book.ACC
 ‘Anna bought an inexpensive book.’
- b. Anna **ne** kupila knigu.
 Anna NEG bought book.ACC
 ‘Anna didn’t buy the book.’

(26) **Sentential and constituent polarity**

- a. Doroguju **li** knigu Anna bought?
 expensive LI books Anna bought
 ‘Does Anna read expensive books?’
- b. Kupila **li** Anna knigu?
 bought LI Anna book.ACC
 ‘Did Anna buy a book?’

In the first case, *ne* precedes the finite verb, while in the latter case, *ne* merges with words (or minimal projections) which include adjectives, adverbs and certain nouns. In the case of gradable adjectives and adverbs, *ne* is used quite productively to form the negative versions of those gradable predicates. For example, attaching to the gradable adjective *bol’shoj* ‘big’ yields the adjective *nebol’shoj* ‘small’ (lit. ‘non-big’) etc. In this respect, *ne* behaves like English prefixes *non-*, *in-*, *un-*, but is used more productively.

- (27) a. ne-bol’shoj dom
 NEG-big house
 ‘a small house’

- b. *ne-naučnye metody*
 NEG-scientific methods
 ‘non/un-scientific methods’

In corresponding fragments with *li* (28b), the Σ is assumed to bear a strong feature which is checked by head-movement of the dominated head which must bear a +pol feature. Like *li*, *ne* is phonologically deficient and lacks stress. I assume that both morphemes are clitics which, once the syntactic derivation is complete, adjoin to their hosts to the right or to the left, respectively.

- (28) a. *ne-bol’shoj*
 NEG-big
 ‘small’
 b. *bol’soj li*
 big LI

Both *ne* and *li* are sensitive to polarity of the predicate with which they merge. Thus, when *ne* or *li* merge with a gradable adjective or adverb, uttering of an alternative is not required. If, however, *ne* or *li* merge with a predicate which is not polar, uttering of a salient alternative is usually required (See Brown and Franks (1995), a.o., for a discussion of sentential negation in Russian).

- (29) Context: no salient alternative to *wooden* is available from the previous conversation

- a. Oni kupili ne derevjannyj *(a kamennyj) dom
 they bought NEG wooden but stone house
 ‘They bought a stone house not a wooden one’
- b. Derevjannyj li dom oni kupili *(ili kammenyj)?
 wooden LI house they bought or stone
 ‘Did they buy a wooden or stone house?’

Another common property of both *ne* and *li* is their apparent locality of scope. In the case where *ne* is followed by a noun modified by an adjective, *ne* can scope over the adjective but cannot scope over the noun or over the whole noun phrase. Thus, the following fragment can only mean ‘inexpensive car’ and cannot mean ‘an expensive non-car’ or ‘something which is not an expensive car’.

- (30) ne-dorogaja mašina
 NEG-expensive car
 ‘an inexpensive car’

By assumption, *ne* can take scope over its c-command domain. Assuming a similar structure for (29b), the low attachment hypothesis can explain *li*’s scope locality.

However, negation is known to be able to scope over branching constituents under contrastive focus. Note that since the branching phrase is not polar, the uttering of a salient alternative is required.

- (31) a. pod'em civilizacij obusloven ne [blagoprijatnymi
 rise civilization.GEN determined NEG favorable
 uslovijami] a vyzovom
 conditions but challenge.

‘The rise of a civilization is triggered by a challenge rather than favorable conditions.’

- b.*[blagoprijatnymi uslovijami] li ubusloven pod'em civilizacii
 favorable conditions LI determined rise civilization.GEN
 ili vyzovom
 or challenge.

‘Is the rise of a civilization triggered by **favorable conditions** or a challenge?’

Analogous constructions with *li* are disallowed (31b), which, I suggest, is due to the Head Movement Constraint: the branching phrase bearing a +POL feature cannot move to *li* due to a Head Movement Violation.

Let's now turn to instances of sentential negation, like the one below:

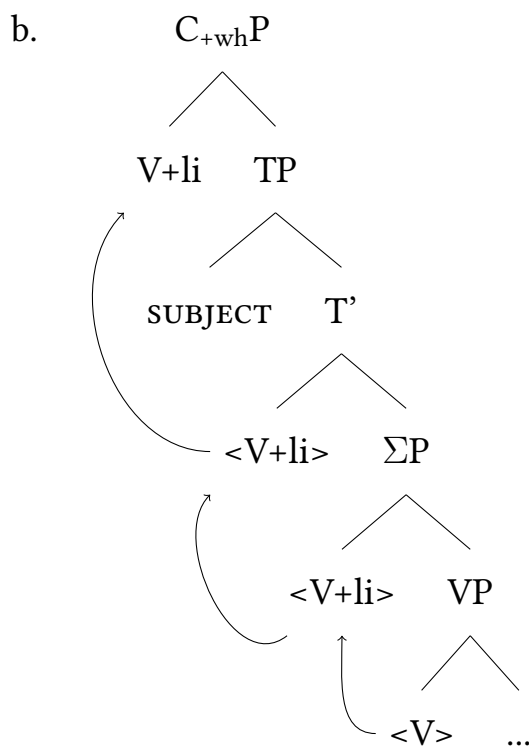
- (32) Čitaet li Nina knigu?
 reads LI Nina book.ACC
 ‘Is Nina reading the book’

I follow (Bailyn 1995a,b; Fowler 1994; Babko-Malaya 2003; Griбанова 2013b) who assume that the sentential negation marker sits in a projection between V and T.

- (33) TP » NegP » VP

Largely similar to the previous case, I take negation to be a (non-interrogative) version of Σ and assume that *li* is generated in ΣP – the same functional projection as *ne*. By assumption, in this case, $X+li$ doesn't project a phrase, and $X+li$ head moves to C to check C's interrogative feature:

- (34) a. Kupil li Dima knigu
 Bought LI Dima book.ACC
 'Did Dima buy the book?'



In sentences containing the future auxiliary, like (35a), the +pol feature is contained on the auxiliary, which head-moves to Σ , then the whole Aux+li complex moves to C, similarly to the previous case. The rest of the structure remains in situ. The ungrammaticality of (35b) is due to a Head Movement Violation: the infinitive cannot head-move to C across an overt

auxiliary.

- (35) a. Budet li Nina citat' knigu?
will.3SG LI Nina read.INF book.ACC
'Will Nina read the book?'
b.*Čitat' li Nina budet knigu?
read.INF LI Nina will.3SG book.ACC
int. 'Will Nina read the book?'

Finally, in the case of null copula constructions, I assume that the nominal head consecutively moves to the *v* head from which it moves to Σ . The rest of the derivation proceeds similar to the previous case.

- (36) Dom li eto?
house LI this
'Is this a house?'

To recall, if the complement of Pred contains a branching structure, the constituent polarity question is not possible, again, due to a Head Movement Violation. However, individual non-branching constituents can be fronted from the nominal predicate via low Σ attachment, yielding constituent polarity (37b). (I leave open the question of whether constituent polarity is also possible in cases like (36)).

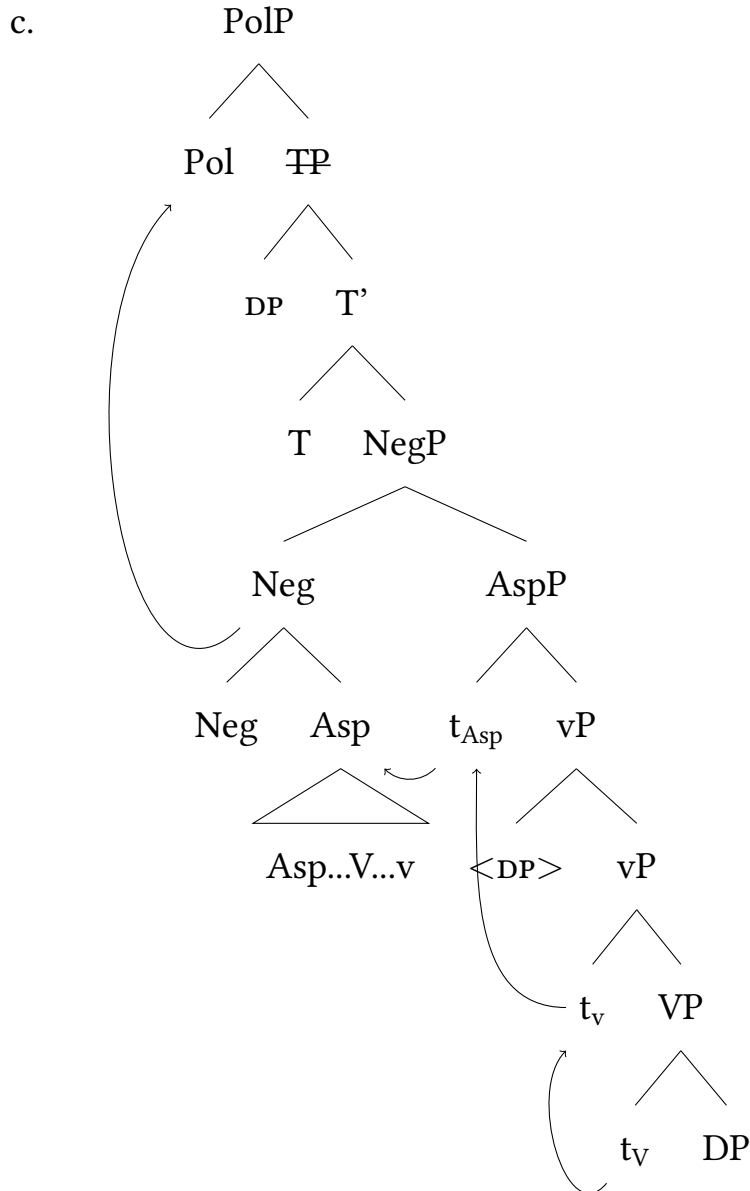
- (37) a.*bol'soj dom li eto
big house LI this
int. 'Is this a big house?'

- b. bol'šoj li eto dom
 big LI this house
 'Is this a *big* house'

I assume Σ to be different from the Polarity Phrase proposed in Gribanova (2013). In her analysis, PolP is a projection above T responsible for attracting polar predicates in sentences like (38). In her analysis, a verb can raise to the polarity head (with subsequent ellipsis) of the TP. The Pol head, according to Gribanova, probes for a phrase with a polar feature which in most cases, accounts to head movement of the Neg.

(38) Gribanova (2013), minimally modified:

- a. Evgenija otpravila posylku v Moskvu?
 Evgenija sent package.ACC in Moscow.ACC
 'Did Eugenia send a package to Moscow?'
- b. (Net,) ne otpravila
 No, NEG sent
 '(No,) she didn't.'



In Griбанова's analysis, in sentences like (38a), which involve polarity focus, verbal heads consecutively move to Neg, and then the whole complex Neg head head-moves to Pol. This is followed by the deletion of the TP. Griбанова's Pol is different from Σ proposed here in being a position

in the left periphery above T. However, the relation between the NegP and PolP in (38c) is remarkably similar to the relation between Σ P and CP in (34b). I leave it open whether Gribanova's Pol is the same projection as the interrogative C attracting X+li.

One final piece of evidence for the Σ hypothesis is the complementarity of *li* and negation. Although the negative morpheme can occur in *li*-questions (39), it can only contribute positive bias semantics.

(39) a. Ne prixodil li Dima?

NEG came LI Dima

'Didn't Dima come over?'

~~X~~Ordinary Negation

✓Positive Bias Negation

b. Ne doroguju li Nina kupila kvartiru?

NEG expensive.ACC LI Nina bought apartment.ACC

'Didn't Nina buy an expensive apartment?'

~~X~~Ordinary Negation

✓Positive Bias Negation

Sentence (39a) can be uttered when the speaker was expecting Dima to come over but, crucially, not in the situation where the speaker holds the belief that Dima's visit was unlikely. Similarly, (39b) cannot be a question about whether Nina bought a particular inexpensive apartment or not, while it can be uttered when the speaker is biased that Nina did buy an expensive apartment.

While it is observed that negation is marked or sometimes dispreferred in polar questions (Sudo 2010), this cannot be the source of the unavailability

of ordinary negation in (39): what these examples show is that in yes-no questions formed without *li* the use of negative phrases is allowed.

- (40) a. Deševuju li kvartiru Nina kupila?
cheap.ACC LI apartment.ACC Nina bought
'Did Nina buy a cheap apartment'
- b. Nina kupila ne-doroguju kvartiru?
Nina bought not-expensive.ACC apartment.ACC
'Did Nina buy the inexpensive apartment?'

This data shows that the negative morpheme is only compatible with *li* when negation contributes positive epistemic bias.

Büring and Gunlogson (2000) show that in polar questions, negation can contribute to semantics in two different ways, which are often referred to as positive bias negation and negative bias negation.

- (41) a. Negative Bias (Ordinary Negation):
Did you not like the movie?
- b. Positive Bias:
Didn't you like the movie?

As has been observed in many works (Brown 1999, Abels 2005), Positive Bias Negation (or, in some sources, Expletive Negation) differs in its syntactic properties from ordinary negation. For example, Positive Bias Negation does not license Negative Polarity Items:

- (42) a.*Ne znaet li nikto iz vas, kak eto delaetsja?
NEG know LI NI-who of you how this is-done
int. 'Do(n't) any of you know how to do this?'

b. Ne znaet nikto iz vas kak eto delaetsja!

NEG knows NI-who of you how this is-done

‘None of you knows how to do this!’

c. Ne znaet li kto-nibud’ iz vas, kak eto delaetsja?

NEG know LI somebody of you how this is-done

‘Do(n’t) any of you know how to do this?’

(adopted from Abels (2005))

Under the Σ P analysis of *li*-questions the reason of unavailability of Ordinary Negation readings of (42) is that two Σ Ps cannot co-occur in the same part of the structure. The suggestion is supported by the observation that more than one negation usually cannot occur on the clausal spine (Grenoble 1992) or in the functional projection of any phrase which is compatible with negation¹:

(43) a.*Nina ne ne kupila mašinu

Nina NEG NEG bought car.ACC

int. ‘Nina didn’t not buy a car.’

b.*Nina kupila ne ne-doroguju mašinu

Nina bought NEG NEG-expensive.ACC car.ACC

int. lit. ‘Nina bought a not inexpensive car.’

At the same time, there is apparently no restriction for two negations to appear in different parts of the structure. Similarly, there is no restriction for *li* to occur with negation merged with another constituent:

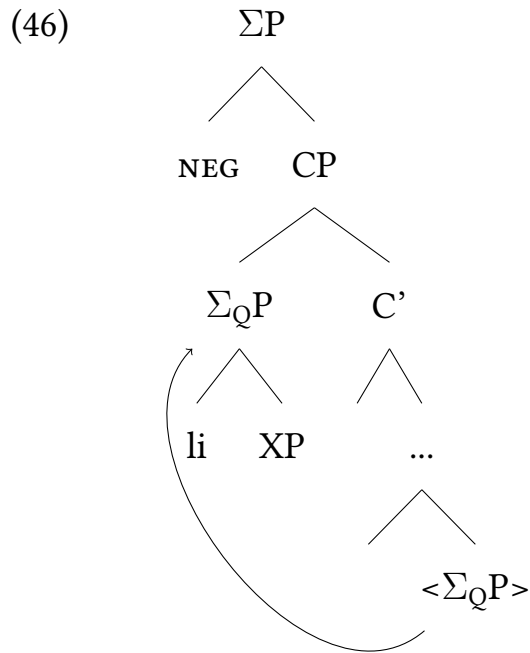
¹Russian orthography provides a set of rather complicated rules which prescribe whether the negative morpheme should be realized as a prefix to its complement or as a separate word. Whether or not these rules reflect some important morphosyntactic differences between the two cases, I am not discussing this issue in this paper.

- (44) a. Nina ne kupila ne-doroguju mašinu
 Nina NEG bought NEG-expensive.ACC car.ACC
 ‘Nina didn’t buy the inexpensive car’
- b. Kupila li Nina ne-doroguju mašinu?
 bought LI N. NEG-expensive.ACC car.ACC
 ‘Did Nina buy the inexpensive car?’

I generalize this rule as follows (see De Clercq and Vanden Wyngaerd (2017) for a similar proposal for affixal negation in English):

- (45) **A Σ phrase cannot take as a complement a Σ phrase.**

As for Positive Bias Negation, I take Abels’s position that it is merged quite high in the structure, for explicitness, this position is assumed to be directly above the interrogative C. Then merging a Positive Bias Negation would not yield a $^*\Sigma \Sigma$ violation, as the following diagram shows.



The system proposed above suggests that $X+li$ can end up in two places in the derivation: in constituent polarity questions, $X+li$ is phrasal and is attracted to SpecCP by the interrogative C, largely similarly to *wh*-phrases in *wh*-questions; in sentential polarity, the *wh*-feature on C is satisfied by head movement.

One piece of evidence suggesting that $X+li$ end up in different positions depending on the type of the question (sentential vs. constituent) comes from cases like (47). In such cases $X+li$ can be extracted through a clausal boundary, similarly to *wh*-words, while $V+li$ cannot.

- (47) a. [Ninu li]_i ty by xotel [čtoby my zavtra priglasili
Nina.ACC LI you subj wanted that.subj we tomorrow invited
i]_i?

‘Would you want us to invite **Nina**?’

- b.*Priglasili_i li by ty (by) xotel čtoby my_i Ninu?
invited LI SUBJ you SUBJ wanted that.SUBJ we Nina.ACC
int. ‘Would you want us to invite Nina?’

This contrast can be straightforwardly accounted for on the assumption that *Nina+li* forms a constituent and is fronted successive cyclically, in the same way as *wh*-phrases do (48a). *V+li* in contrast doesn’t project a phrase and can only head-move (48b).

- (48) a. Kogo ty by xotel [čtoby my zavtra priglasili]_i?
who.ACC you SUBJ wanted that.SUBJ we tomorrow invited
‘Who would you want that we invited tomorrow?’
b.*Pridet ja dumaju (čto) on zavtra, no pozdno
will.come I think that he tomorrow, but late
int. ‘I expect that he **will** show up tomorrow, but late.’

Similarly to *wh*-questions, in *li*-clauses, the fronted constituent can be either fully spelled out as an upper copy or be partially spelled out in the lower and the higher copy (Bošković 2001).

(49) **Variable copy pronunciation in *wh*-questions:**

- a. **Kakuju** Nina kupila **kvartiru**?
what.ACC LI Nina bought
- b. **Kakuju** **kvartiru** Nina kupila?
what.ACC LI apartment.ACC Nina
'What kind of apartment did Nina buy?'

(50) **Variable copy pronunciation in *li*-questions:**

- a. **Doroguju** **li** Nina kupila **kvartiru**?
expensive.ACC LI Nina bought apartment.ACC
- b. **Doroguju** **li** **kvartiru** Nina kupila?
expensive.ACC LI apartment.ACC Nina bought
'Did Nina buy an *expensive* apartment?'

I assume Scattered Deletion Analysis (Bošković 2001): under this analysis, the DP is always pied-piped, and the higher copy is either entirely or partially pronounced (the rest is then pronounced in the lower copy):

- (51) a. [**Doroguju** li] ~~kvartiru~~ Nina kupila [~~doroguju~~-li ~~kvartiru~~]?
b. [**Doroguju** li] ~~kvartiru~~ Nina kupila [~~doroguju~~-li ~~kvartiru~~]?

In the rest of this section, I provide several additional pieces of evidence for low attachment of *li*.

First, similarly to *wh*-words, X+*li* licenses sluicing. Adopting the low attachment analysis allows to maintain a uniform C'-deletion analysis of *li*-questions and *wh*-words:

- (52) a. Nina zavtra uezžaet, no ja ne znaju, nadolgo li [~~Nina~~
 Nina tomorrow leaves, but I NEG know for.long LI (Nina
 zavtra uezžaet]_C
 tomorrow leaves)
 ‘Nina is leaving tomorrow, but I don’t know whether she is leaving
 for long [or not]’
- b. Nina zavtra uezžaet, no ja ne znaju, kuda [~~Nina zavtra~~
 Nina tomorrow leaves, but I NEG know where (Nina tomorrow
 uezžaet]_C
 leaves)
 ‘Nina is leaving tomorrow, but I don’t know where.’

Finally, similarly to *wh*-morphemes, *li* is often found in interrogative clauses but is not limited to interrogative environments. Apart from polar questions, *li* is also found as part of the complex conjunction *to li* (a close equivalent of the French particle *sois*):

- (53) a...dejstvujuščij prezident ispugalsja svoix to li sopernikov to li
 incumbent presedent got.scared self’s TO LI opponents TO LI
 preemnikov
 heirs
 ‘The incumbent president got scared of either his opponents or his
 heirs.’

- b. My smotreli to li francuzskij to li ital’janskij fil’m v tot
 We watched TO LI French TO LI Italian movie in that
 večer
 evening
 ‘[I can’t tell whether] we watched a French or an Italian movie that
 night.’

4 The left edge requirement and DP-internal movement

The assumption that $X+li$ forms a constituent and acts as one unit with respect to *wh*-movement allows us to look at the distribution of $X+li$ phrases compared with *wh*-words.

One piece of similarity between $X+li$ and *wh*-words is that both types of phrases tend to appear at the left edge of the fronted phrase. Indeed, in most cases we considered $X+li$ and *wh*-words were at the left edge of the DP (Cf. for example, (51)).

Indeed, both $X+li$ and *wh*-words are constrained to appear in other positions than the DP Left Edge. The following examples show that while in declarative sentences, a possessor can be deeply embedded inside of a DP, linearly following its possessee (54a), a *wh*-possessor is disallowed in this position within the DP. The same is true for $X+li$ possessors.

(54) Left edge requirement for $X+li$ and *wh*-words:

- a. Ljubimaja kniga sestry **Niny**
 favorite.NOM book.NOM sister.GEN Nina.GEN
 ‘Nina’s sister’s favorite book’

b.* [Ljubimuju knigu sestry **kogo**] ty xočeš kupit’?
 favorite.ACC book.ACC sister.GEN who.GEN you want to.buy
 int. ‘Whose sister’s favorite book do you want to buy?’

c.* [Ljubimuju knigu sestry **Niny li**] ty xočeš kupit’?
 favorite.ACC book.ACC sister.GEN Nina.GEN LI you want to.buy
 int. ‘Do you want to buy Nina’s sister’s favorite book?’

The property of *wh*-words to appear close to the left edge of the *wh*-phrase undergoing movement has been observed in many works on *wh*-movement.

However, X+*li* and *wh*-words seem to behave differently with respect to Left Edge Requirement. More specifically, *wh*-words can sometimes linearly follow some DP-internal material.

(55) Jabloki **kakogo** cveta my kupili?
 apples.ACC what.GEN color.GEN we bought
 lit. ‘Apples of what color did we buy?’

In contrast, such position is not allowed for X+*li* phrases: they must appear at the left edge in almost all cases.

(56) a.* Jabloki **krasnogo li** cveta my kupili?
 apples.ACC red.GEN LI color.GEN we bought
 int. ‘Did we buy apples of red color?’

b. **Krasnogo li** cveta jabloki my kupili?
 red.GEN LI color.GEN apples.ACC we bought
 ‘Did we buy apples of red color?’

As the following example shows, the base generation of the genitive modifier is postnominal, suggesting that in (56a), the phrase has undergone DP-internal *wh*-movement to the left periphery of the noun phrase, presumably, the SpecDP position. The same is true for *wh*-words:

- (57) a. My kupili [jabloki krasnogo cveta]_{DP}
 We bought apples red.GEN color.GEN
 ‘We bought apples of red color’
- b. [[Kakogo cveta]_j jabloki t_j]_i my kupili t_i ?
 what.GEN color.GEN apples.ACC we bought
 lit. ‘Apples of what color did we buy?’
- c. [[Krasnogo li cveta]_j jabloki t_j]_i my kupili t_i ?
 red.GEN LI color.GEN apples.ACC we bought
 lit. ‘Did we buy apples of **red** color?’

At the same time, as the following example shows, *X+li* can be disrupted from the left edge if it follows phonologically deficient material, such as prepositions:

- (58) V **doroguju** li kvartiru Dima pereezžaet?
 In expensive.ACC LI apartment.ACC D. moves
 ‘Is Dima moving in to an EXPENSIVE apartment?’

One thing that most examples where *wh*-words is not at the Left Edge of the DP have in common is that the material that precedes the *wh*-word doesn’t project a (maximal) phrase. Indeed, in example (59), the *wh*-word is in the complement position of a head noun, which is the only material disrupting the *wh*-word from the left edge.

- (59) a. portret kakogo muzykanta...
 picture what.GEN musician.GEN
 ‘(the) picture of what musician...’
- b. upotreblenie kakogo produkta...
 consuming what.GEN product.GEN
 ‘consuming of what kind of product...’

The generalization that arises at this point is the following:

- (60) ***li* vs. *wh* generalization** (to be revised)
- a. Both *wh*-words and *li*-phrases are subject to obligatory movement to SpecCP;
- b. *li*-phrases are subject to obligatory movement to SpecDP; *wh*-words may remain in situ within the DP in some configurations

Importantly, the obligatoriness of *wh*-movement in *li*-questions and the Strict Left Edge Requirement of *li* ensures that X+*li* occupies the first position in the clause. Furthermore, given that X in X+*li* cannot be branching, this gives account of the Second Position Requirement of *li*.

- (61) **Three components of Second Position Requirement on *li***
- a. **Obligatory head movement of the pivot:** The pivot of *li* is non-branching and in most cases consists of one phonological word
- b. **Obligatory phrasal movement to SpecCP:** The DP/PP containing X+*li* must move to SpecCP
- c. **Obligatory phrasal movement to SpecDP:** X+*li* must be contained at the left edge of the fronted DP/PP.

Below I propose an account of *li-wh* generalization in Contiguity Theory. Roughly speaking, *li* vs. *wh* generalization suggests that *wh*-words may be separated from the Left Edge of the DP by non-phrasal material while *X+li* cannot be separated from the Left Edge by any kind of (phonologically non-deficient) material. The idea is configurations like the one in (56a) create Contiguity violations for *X+li* but not for *wh*-words.

As defined in Richards (2016), Contiguity is a certain type of configuration between the goal (in our case – *wh*-word or *X+li*) and the active edge (Left Edge in Russian). The absence of Contiguity is a violation which can be rescued by overt movement.

(62) a. **Generalized Contiguity**

If α either Agrees with or selects β , α and β must be dominated by a single prosodic node, within which β is Contiguity-prominent.

b. **Contiguity-prominence**

Given a ϕ (phonological phrase), F, contained in another ϕ , G, F is Contiguity-prominent in G if F is not linearly separated from a prosodically active edge of G by any other ϕ .

I suggest that *wh*-morpheme and *li* differ in what counts as a Contiguity violation for them within a DP. Assuming that maximal phrases map into ϕ , Contiguity Theory can give a straightforward account of DP-internal movement of *wh*-words. The idea that for *X+li*, Contiguity violations can be created by phrases smaller than ϕ . In example (59a), for instance, the word *portrait* doesn't create a Contiguity violation.

I suggest that minimal phrases (type omega) create Contiguity Violations for *X+li* but not for *wh*-words. In other words, Contiguity is relativized

with respect to the type of interrogative phrase.

(63) a. **Configuration triggering overt movement for *wh*-words:**

[PROBE ... ϕ ... *wh*-word ...]_{DP}

b. **Configuration triggering overt movement for *X+li*:**

[PROBE ... ω ... *X+li* ...]_{DP}

where ϕ is a maximal phrase and ω is a word

Since by assumption, omega corresponds to phonological word, the rule in (63) states that any phonological word disrupting *X+li* from the left edge of the DP creates a Contiguity violation.

In this system, the strict Left Edge Requirement of *X+li* is a result of either of the two configurations: one type of cases, that *X+li* is generated at the left edge of the DP, in which case it doesn't create a Contiguity violation. In the other type of cases, *X+li* has moved to the left edge of the DP for the reasons of Contiguity.

By assumption, the distribution of *wh*-words within the DP is subject to the same set of constraints with the only difference that syntactic material to the left of *li* which doesn't project a syntactic phrase (ϕ) don't count as a Contiguity Violation for *wh*-words.

Some additional support for this analysis can be drawn from the fact that the possibility of leaving the *wh*-word in situ correlates with impossibility of DP-internal *wh*-fronting. If such violation can be resolved by overt movement to the left edge of the DP, *X+li* moves to the left periphery. If DP movement is unavailable, the use of *X+li* is impossible. In most cases, when the *wh*-word is not at the Left Edge, its fronting is not possible.

- (64) a.^{*/??} kakogo muzykanta portret...
 what.GEN musician.GEN picture
 ‘(the) picture of what musician...’
- b.^{*/??} kakogo produkta upotreblenie ...
 what.GEN product.GEN consuming
 ‘consuming of what kind of product...’

The observation, however, is that the presence of maximal phrases correlates positively with the possibility of DP-internal fronting and correlates negatively with the possibility of leaving the phrase in situ.

- (65) a. poezdka, rasskaz o kotoroj my slušali včera
 trip story about which we heard yestreday
 ‘(the) picture of what musician...’
- b.^{??} poezdka, o kotoroj_i rasskaz t_i my slušali včera
 trip about which story we heard yesterday
 ‘consuming of what kind of product...’
- c.[?] poezdka, dlinnyj (i neverojatno skučnyj) rasskaz o kotoroj
 trip long and incredibly boring story about which
 my slušali včera
 we heard yestreday
 ‘a trip, about which yesterday we heard a story’

- d. poezdka, o kotoroj_i dlinnyj (i neverojatno skučnyj) rasskaz
trip about which long and incredibly boring story
t_i my slušali včera
we heard yestreday
‘a trip, about which yesterday we heard a long and an incredibly boring story ’

Li-clauses behave similarly in this respect, with the important difference that Left Edge Requirement must always be satisfied. More specifically, when X+li is not disrupted from the Left Edge by a maximal phrase, both leaving in situ and fronting are not available in most cases.

- (66) a.^{??} Dimy li portret...

Dima.GEN LI portrait

- b.^{??} o Dime li rasskaz my slušali včera
about Dima LI story we listened
‘Did we listen to a story about **Dima**?’

- c. o Dime li dlinnyj (i neverojatno skučnyj) rasskaz t_i my
about Dima LI long and incredibly boring story we
slušali včera
listened yesterday
‘Did we listen to a long and incredibly boring story about **Dima**?’

Unfortunately, the acceptability of such examples is subject to speaker variation, with judgments often being subtle, which makes the formulation of the exact rules of DP-internal *wh*-movement challenging. However, most of consulted speakers agree in that the presence of a prenomi-

nal Adjective Phrase ameliorates *wh*-movement, especially if this phrase is heavily branching. What I conclude from this data is that first, *wh*-words, but not *X+li*, can violate Left Edge Requirement in certain contexts, (*most often*, or perhaps *only* when the material to the left doesn't contain a maximal phrase) and, second, that in some cases, DP-internal movement seems impossible and the presence of maximal phrases ameliorates DP-internal *wh*-movement for both *wh*-words and *X+li*.

(67) ***li* vs. *wh* generalization** (revised)

- a. A *wh*-phrase must move to SpecDP iff there is an intervening maximal phrase between the *wh*-phrase and the probe (D)
- b. A *li*-phrase must move to SpecDP iff there is an intervening phrase of at least minimal level between the *wh*-phrase and the probe (D).
- c. Other restrictions on movement may apply.

I leave for future research investigating the reason why *X+li* phrases behave differently from *wh*-words with respect to Contiguity.

5 Conclusions

In this paper, I suggested that *li*-clauses in Russian involve fronting a polar phrase to the left periphery. The polar phrase (*X+li*) is formed of *li* and a polar predicate, in most cases, a gradable adjective or an adverb. I have shown that the polar phrase behaves similarly to transitional *wh*-words (*who*, *where*, *how*, *when* etc). Unlike *wh*-words, which usually constitute a closed list, merging of *X* and *li* can be used productively to form new polar phrases. In many languages, polar particles seem to also demonstrate sec-

ond position phenomena. Such particles include Finnish *ko*; Latin *ne* and others. I leave for future research whether the proposed analysis can be extended for those languages as well.

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